



## Their Reputation has been Built Up by Selling Good Goods at Uniform Low Prices.

Forty Years' Experience enables us to thoroughly test the merits of all kinds of goods in our line, and none but those that have been tried are selected. The public can come with confidence to our store, and feel assured that whatever they buy there, will not result in disappointment. Our styles are always the latest, and everything from Barr's can be worn with perfect confidence. THE FLOOD TIDE OF NOVELTIES AND BARGAINS AT BARR'S, has now set in. We invite you to look over a few we enumerate below.

### LINEN DEPARTMENT.

Monday morning we offer you your choice of 50 dozen Bath Towels at 25c each. These come in all styles and sizes; Monday at one price, 25c.

### TURKEY RED DAMASK.

13 pieces 54 inch Turkey Red Damask, 25c. We have about 35 dozen Barr's Banner Towels, size 24, by 54. Monday \$3.00 per dozen, 25c each. Silks Dish Cloths, 10c each; 3 for 25c.

### HANDKERCHIEF DEPARTMENT.

No department has met with better success than our ladies', gents' and children's Handkerchief department. The stock is large and bought from the manufacturers, and sold at such low prices, as always command a speedy sale.

### NOTE OUR PRICES.

75 dozen Ladies' Hemstitched, printed border, fast color Linen Handkerchiefs, at 10c.  
65 dozen Ladies' Hemstitched, printed border, fast color, Linen Handkerchiefs, at 15c.  
45 dozen Gents' Hemstitched, printed border, fast color Linen Handkerchiefs, at 20c.

### GENTS' FURNISHING GOODS.

Our Gents' Furnishing Department forms one of the special features in our new store, and we are now showing a large and well selected stock of seasonal goods. We call attention to a few of our prices:  
50 dozen Nappa Driving Gloves, at 50c per pair.  
40 dozen Heavy Ribbed Half Hose, colored, at 25c per pair.  
Camel's Hair Shirts and Drawers, woven blanket bottom, \$1.75 each.  
Full lines of Ladies' Ready-Made Undervests, Corsets, Bustles, Children's Caps and Tam O'Shanter—all new and fresh from the best markets at Barr's popular prices.

### PRINT DEPARTMENT.

A fine line of DRESS GINGHAMS at 5c per yard.  
A full assortment of plain and fancy Ulsters from \$5.50 to \$30.00.  
One hundred NEW and STYLISH patterns in CALICO at 5c.  
Will open to-morrow ten cases of Canton Flannel which we will sell at 10c; regular selling price 15c. A great bargain.

### CLOAK DEPARTMENT.

EVERYTHING NEW, NOBBY AND STYLISH.  
Ladies' Plush Jackets, satin lined, perfect fitting, \$12.00; cheap at \$18.00.  
Ladies' Plush Jackets silk lined, half trimming, LATEST CUT, \$13.50; regular price, \$20.00.  
PLUSH NEWMARKETS, PLUSH SACQUES, PLUSH JACKETS AND PLUSH WRAPS, from \$12.00 to \$60.00; made expressly for the Wm. Barr Dry Goods Co.  
See our Ladies' "English" Raglans, something entirely new.  
A full assortment of plain and fancy Ulsters from \$5.50 to \$30.00.  
We offer as a leader in the Cloak Department, Ladies' fancy Raglans, All Wool winter weight, \$16, cheap at \$22.  
A splendid assortment of Ladies' Fall and Winter Jackets in black and colored from \$4 to \$16.  
A complete line of Shawls, double and single, colors and black; ranging in price from \$5.50 to \$20.

### HOSIERY.

LADIES' COTTON HOSE, full regular made, in fancy stripes, 25c pair.  
LADIES' COTTON HOSE, in black, seal and navy, warranted fast colors, 25c pair.  
LADIES' FAST BLACK COTTON HOSE, with ribbed top, elastic and durable, warranted not to crack, 50c pair.  
LADIES' BLACK CASHMERE HOSE, full regular, warranted all wool, 50c pair.  
Ladies' Natural Grey Camel's Hair Sanitary Undyed Wool, 50c pair.  
Full line of LADIES' FANCY LITTLE THREAD HOSE, in exclusive designs, from 50c upwards.  
LADIES' NATURAL GREY JERSEY FITTING VESTS, 85c.  
LADIES' CAMEL'S HAIR VESTS, \$1.00.  
LADIES' JERSEY FITTING ALL WOOL VESTS, in white, scarlet and natural grey, high neck and long sleeves, \$1.40, \$1.50, \$1.60.  
LADIES' BLACK SPUN SILK HOSE, 65c.  
LADIES' COLORED SPUN SILK HOSE, extra heavy, 85c. Special bargains.

### OUR ART DEPARTMENT.

Is well worthy of inspection. Ladies will find many novelties not brought out before. Barr's uniform low prices prevail.

### FLANNEL DEPARTMENT.

DOWN STAIRS.  
15 pieces 25-inch French Opera Flannel in Cardinal shades only, at 25c per yard; regular price 50c.  
Suits Flannels, all colors, 50 inches wide at 50c per yard; regularly sold for 65c.  
Fancy Flannel Sacking Flannel, 25-inch all wool, at 32c, worth 40c.  
SKIRTING FLANNELS—45-inch all wool Embroidered Skirting Flannels in plain and fancy colors, at 75c per yard. This Flannel is worth \$1.00.  
FLANNEL SKIRT PATTERNS, all wool, sold everywhere for \$1.50; our price is \$1.00 each.  
EXTRA HEAVY SKIRT PATTERN at \$1.25; worth \$1.65.

### BLACK SILKS.

SPECIAL VALUE.  
20-inch ALL SILK RHADAMA, 75c; worth \$1.10.  
FAILLÉ FRANÇAISE, 21-inch, all silk, \$1.00; extra value at \$1.25.  
LATEST WEAVE—PEAU DE SOLE, soft and durable, 21-inch, all silk, \$1.25; regular price \$1.50.  
Just Arrived—A choice assortment of Colored Moire, Francaine and Illuminated Stripes for all combinations.

### LACE DEPARTMENT.

30-INCH VALENCIENNES FLOUNCING, fine pattern and good designs, 50c per yard.  
40-INCH VALENCIENNES FLOUNCING, finest patterns and elegant designs, 75c, 85c, 90c, \$1.00 per yard.  
40-INCH BLACK SPANISH GUIPURE FLOUNCING, very cheap, 75c per yard.  
40-INCH BLK SPANISH GUIPURE FLOUNCING, all silk and splendid designs, \$1.00, \$1.25, \$1.50, up to \$7.00 per yard.  
40-INCH CHANTILLY FLOUNCINGS, pure silk and all of the latest patterns, \$1.00 to \$6.00 per yard.  
48-INCH BLACK SPANISH GUIPURE NETS, in all the best designs, \$1.50, \$1.75, \$2.00, \$2.25, \$2.50 and up to \$4.00.

### DRESS TRIMMING DEPARTMENT.

21-inch wide FANCY BRAID TRIMMING, in the most desirable shades, 40c per yard.

21-inch wide BLACK BEADED PASSEMENTERIE TRIMMING, fine quality 75c per yard.

We have the finest line of EGYPTIAN SETS (5 pieces each) west of New York City, from \$6.75 to \$20.00 per set.  
Also an elegant assortment of STEEL SETS (5 pieces each), \$2.75 to \$11.00 per set.  
BLACK CROCHET BRAID SETS, elegant designs, (5 pieces each), \$2.75 to \$13.50 per set.

BLACK BEADED SETS (5 pieces each), \$5.00 to \$20.00 per set.  
Our entire line of Dress Trimmings, both imported and domestic, are the very latest designs and all new goods.

### NOTION DEPARTMENT.

2,000 gross DRESS PEARL BUTTONS for 3c dozen; worth 10c.  
1,000 gross ROMAN PEARL BUTTONS, in all the latest colors, worth 15c a dozen, for 7c.  
500 gross PEARL BUTTONS, full ball, worth 25c dozen, for 10c.  
Best STOCKINET DRESS SHIELDS, worth 30c pair, for 18c.  
ELASTIC DRESS EXTENDERS, worth 15c set, for 8c.  
Pure White CASTLE SOAP, 3-lb. bars, worth 50c bar, for 25c.  
CUTICULAR SOAP, worth 25c cake, for 15c.  
POZZONI'S COMPLEXION POWDER, worth 50c box, for 30c.

### BLANKET DEPARTMENT.

DOWN STAIRS.  
We call especial attention to this Department. The stock is complete and the values we offer make competition out of the question.  
Below we quote a few prices:  
12-4 all Wool Scotch Plaid, Novelty, \$4.50.  
12-4 all Wool Scotch very fine, \$5.00.  
12-4 all Wool White, very fine, \$4.50.  
Eider Down Comforts, latest patterns from \$5.50 to \$30.00.  
6x9 Comforts, 75c; "excellent value."  
7x9 Comforts, 85c.  
7x9 Comforts, \$1.00.  
6x7 China, \$1.50.  
6x7 Sateen, \$2.00.  
Carriage Robes in Beaver, Wild Cat, Wolf, Raccoon, Mohair, Plush and Scotch Water proofs.

### MILLINERY DEPARTMENT.

Our Miss Kahl has just returned from a three weeks' trip to New York, where she secured the latest and most stylish Paris Novelties. Goods are now on sale. We invite inspection, and are confident that our styles and prices will please you.

### MOURNING DEPARTMENT.

Extra good value in All Wool BLACK CASHMERE, 40c, 50c, 60c and 75c.  
Special offering in BLACK ALL WOOL HENRIETTA, 40c, 50c, 60c, 75c, 85c and \$1.00.  
SILK WARP HENRIETTAS (Ripley dyes), \$1.00, \$1.10, \$1.25, \$1.40, \$1.50.  
For superior finish and color these goods are unequalled. We claim to have only the best makes, and guarantee our colors fast black.

### DRESS GOODS DEPARTMENT.

The markets of Europe and America, have been ransacked for novelties in Dress Materials.  
We have now on exhibition the choicest and most beautiful designs in Combination Suits and Robes; also a most complete assortment of all the new plain materials, including Broadcloths, from the most famous manufacturers in the world. This week our Dress Goods Department has been a big success. New Paris Novelties will be added daily. We invite a careful investigation.

## TO THE LADIES OF OMAHA:

One of the most interesting features of our Housefurnishing Department is "The Keystone Cooking School," where the work of the WONDERFUL KEYSTONE BEATERS will be practically demonstrated by an expert from Philadelphia. There are two sizes of this very useful article, Nos. 1 and 2. No. 1 will whip eggs, whip cream, mixes light batters, makes icings, whips fruits and berries, prepares infant's and invalid's food, etc., etc. No. 2 is larger and will do heavier work, such as making pie crust, mixing and kneading light doughs, mashing and flaking potatoes, churning butter, making ice cream, and hundreds of other things too numerous to mention. Cake prepared for the oven in 3 minutes time. Eggs whipped in 30 seconds. The one minute coffee pot will also be on exhibition. Prices within reach of all.

## WM. BARR DRY GOODS COMPANY,

## Douglas and 16th Streets, Omaha.

N. B. Goods delivered free of charge to Council Bluffs, South Omaha and all parts of the city. Mail orders will receive prompt attention.

### THE ELECTRIC WIRE PROBLEM

Difficulties and Obstacles to Be Overcome.

### PARIS AND LONDON SYSTEMS.

Investigations of the New York Commission—The Five Plans in Use—Immense Mileage of New York Conductors.

Overhead and Underground Wires. Recently Dr. S. S. Wheeler read a highly interesting paper before the National Electric Light Association, from which the following is taken, as printed in the Electrical Review.

It is my purpose, in as brief and concise a manner as possible, to give you some idea of the condition of the overhead and underground wires in the City of New York, and the means which are being adopted by the public authorities to bring about a better state of affairs than the one now and for some time existing.

In 1884, the Legislature of the State of New York enacted a law to the effect that electrical companies in the city of New York and Brooklyn should place their conductors underground. The local authorities were expected to enforce this law, and the maintenance of electrical conductors overhead in these two cities, after a certain day, was declared to be unlawful.

Of course, the business of telephoning, telegraphing, and electric lighting could not be disposed of so summarily, and before the day appointed upon which the maintenance of wires overhead was to become unlawful fell due, the legislature enacted, in 1885, a law for the establishment and continuance of a commission, the object of which was to provide a plan by which electrical conductors in the city of New York and Brooklyn could be placed underground without interfering with the efficiency of the electrical service. By this law of 1885 it was provided that companies could submit to the commission established in the two cities, plans for placing their conductors underground, and should the said plans meet the approval of the commission, the companies submitting them could thereupon proceed to place their conductors underground according to these approved methods.

In 1885 the question of placing electrical conductors underground was very generally disputed, and no company submitted plans to the commissioners within the required time. It thereupon became the duty of the Commissioners of the Electrical Subways to devise a method by which electrical conductors could be placed underground, and to compel companies to carry out the work according to this method.

The subject was then comparatively new, the difficulty not fairly comprehended, and the different kinds of service, as well as the ways in which the wires might be put underground, were not even classified.

The result of the investigation made by the Commission to ascertain what method wires could best be placed underground in cities, was that the Commission had to listen to about four hundred and fifty plans, many of them having nothing to do with the work to be accomplished, and many of them utterly absurd.

Notwithstanding the impression that

underground wires were a common thing in other cities, especially abroad, nothing had been done that would serve as experience for this city. In many places wires had been laid underground singly, in pipes, in sewers, and in cables, but no such placement plan could be allowed in a city having more telephones, more telegraphs, more electric light and less available area, than any other spot in the world in proportion to the amount of work to be done.

To be of any value, under such circumstances, a plan had to be found which would permit new wires being put in from time to time, almost without limit, without disturbing the pavements of streets, and of sufficient capacity to accommodate the large number of wires, for which a sufficient space underground could scarcely be found between the various constructions already buried.

The difficulty of the problem, and the reason why the experience of other places are of so little value to us, will be seen when it is considered that the number of wires in a given space in New York, taking the average, is very much greater than in any other center in the world.

The ground was so filled with gas, water and steam pipes, sewer and pneumatic dispatch tubes, and their connecting boxes and manholes, that it was impossible to find a straight course for a conduit, or even a small number of ducts, and it was at this point, to which the repairs to these, which if continually going on, would make the wires specially liable to disturbance and injury. The earth is saturated with gases from the various pipes, and this would be the case in any space, such as the subways would afford, destroying the insulation of the cables, affecting the workmen, or causing explosions.

In order to treat the subject thoroughly, the Board of Electrical Subways of the City of New York, investigated all the different systems in use in other cities; in connection with the many plans which were submitted for approval to be used in New York. It was found that in Paris, they are found in having extremely large sewers, through which in the streets were the sewers run all of the wires are laid together with the gas and water pipes. These sewers consist of a large arched passage with a flat floor through the center of which runs a deep trench or canal for the sewage. The flat pavement on either side of this forms a broad walk over which the pipes and wires are suspended from the arch roof. A rail is laid on either side of the canal, and on the track so formed a car can travel carrying a drag which is used in cleaning the canal or sewer proper. In the streets which do not have these sewers the wires are strung upon the house tops.

The only other place which at that time furnished experience at all applicable to the problem here was London. But here there were, and are now practically, no arc lights at all, and therefore no circuits, therefore no underground cables, with no out door circuits; the telephone is not used very extensively, and the wires of the telegraph are placed underground by the government. The plan employed is what has been called the "cable drawing" system, and consists of five-inch cast-iron pipes laid under the sidewalks and accessible through handholes or "flush boxes." These pipes are said (I do not know how correctly) to be loosely jointed for the purpose of admitting water to preserve the cables which are of gutta percha, the same as is used for submarine cables, and which deteriorate very rapidly when exposed to the air. In other words, they have learned, by their experience with ocean cables, how to make insulation which will stand the water, so they try to convert the sub-

way problem into the same kind of work. Conduits have been laid at a later date in other places.

In Brooklyn there are about ten miles of conduit, and about four and a half miles of a conduit consisting of a wooden box made of creosoted boards loosely put together, with narrow ones slid into grooves on the inside to form partitions. This duct being loose and movable, it is very liable to being pulled out of place, and as creosote will dissolve rubber, it is not a good place in which to put rubber cable.

Another plan which has been seen some slight use in Philadelphia is the Johnstone system. This consists of a broad flat cast iron duct, made in sections, about six feet long, and divided horizontally into an upper and a lower half or shell, so that a section can be removed and another substituted without cutting the wires already drawn into place. The duct is divided in sections, of smaller ducts, for classifying the wires, by partitions consisting of long slabs of cast iron which are slid into place in grooves cast in the inside of the outer shell. The feature of this system is the facility which it affords of introducing an outlet from the duct exactly opposite any lamp post of desired part of a building, by taking off the upper or lower half of a single section, and putting in its place a new half section with a hole in it at the desired point, to which a branching elbow can be bolted.

There goes with this style of conduit a manhole formed of a bottom, a top and variable number of rings or sleeves placed one upon the other so as to build up the height of the manhole and permit of the ducts being run out at any one of which can be taken off to allow the ducts to be run on either side at any angle.

All of the other plans by which wires have been put underground, except the Dorset and other manhole drawing systems used in this city, which will be described later, consists of nothing but the wire with covering buried in a trench, and are of no value beyond the careful care of their own particular wires.

Prominent among such plans may be mentioned the Edison tubes. This system, which has been extremely successful for its one kind of service, consists of heavy copper rods wound with rope, and laid in wrought iron pipes filled with an insulating compound composed of Trinidad asphaltum, resin, paraffin and linseed oil. This compound is run into the pipe when heated to about 300 degrees Fahrenheit, under considerable pressure, while an exhaust is applied to the other end of the purpose of drawing out all air bubbles. The end of the tubes are then plugged with wood soaked in paraffin, leaving the coppers projecting.

The chief peculiarity of this system of conductors, and the feature of which is, perhaps, most familiar to all, is the means of connecting up these lengths of tubing and conductors. The rods are connected by short pieces of copper cable terminating in suitable copper sleeves, which are soldered to the ends of the rods when in position and the bow shaped expansion joint so formed is covered with hot compound poured into a small cast iron coupling box which is bolted on to the junction. The lines terminate at the street crossings in large cast iron boxes, like manholes, where the rods are joined by heavy copper cables, to suitable connecting devices near the top.

This plan is too expensive except for very heavy conductors, but serves admirably the requirements of incandescent lighting.

Another method somewhat similar is the Brooks System, which consists of wires covered with cotton and drawn

through large iron pipes which are afterwards filled with a heavy resin oil so as to prevent the water from entering. This oil is a good insulator.

The remaining plans are of the next lower grade of mechanical construction and consists of wires and cables of various kinds laid in troughs and covered with some protecting substance, usually tar or asphaltum.

Among these may be mentioned the few telephone and telegraph wires in Boston, where the cables and laid in a trough and covered with bitumen. A few telephone wires laid in New York and electric light wires in Pittsburgh laid in the same way.

There are also innumerable places where cables of various kinds are laid directly in the earth, some coming up to broad covering to protect them from men with shovels. But none of these are of special interest to us, because obviously we cannot use them.

The result of the investigations of the Commission were summed up in their Second Report, dated the 30th of June, 1886, as follows:

"The principal systems of electrical subways may be divided, first as to their electrical composition; and second, as to their mechanical construction, and the manner in which the wires are placed in them."

As to material composition, subways are:

1st. Of insulating material, such as wood, glass, concrete, etc.  
2d. Of conducting material, such as iron.

As to mechanical construction, subways are, generally speaking:

1st. Tunnel systems.  
2d. "Drawing-in" systems.  
3d. Solid systems.  
4th. "Dropping-in" systems.  
5th. Combined systems.

Tunnel systems, or those where space is provided in advance, and sufficient to allow the passage to and fro of men who place the wires within the subway, could be recommended, were unlimited time and money at the disposal of the Commission; but the expense of such a system, and the crying need of immediate action preclude the adoption of such a plan. If ever underground railroads become a feature of our city transportation, then, perhaps, the tunnel can be used for some of the future trunk line cables.

In Paris, where the foundations of the city are honeycombed in all directions by large sewers, such a plan is practicable and admirable, but not to be thought of in New York.

"Drawing-in" systems, or those where manholes are provided in the streets, connected by tubes or pipes through which the wires can be drawn, are next in prominence and convenience to tunneling.

In Chicago, there were seen in successful operation nearly 20 miles of conduits of the materials, containing all kinds of wires, as follows:

Eight miles of the Dorset system of concrete conduit divided into ducts and containing in the separate ducts wires of the city telephone, telegraph and fire service, electric light wires, and wires of different telegraph companies.

Four miles of the Johnstone system of concrete conduit divided by metal shelves, and carrying the wires of the Postal Telegraph Company.

In Philadelphia, a comprehensive "drawing-in" system of iron was seen, containing electric light and telephone and telegraph wires.

In Boston, some two miles of such "drawing-in" iron systems are in operation.

In London, 9,000 miles of wire are underground, bunched into cables, and drawn into three-inch iron pipes.

Solid systems, or those where wires

are permanently imbedded in insulating material and incapable of being reached except by tearing up the streets and the insulation, have been found to work with more or less success. The Commissioners saw several miles of this conduit in successful operation in Chicago by the telephone company there, where wires were buried in an asphalt or coal-tar cement, laid in a wooden trough.

Several miles of similar conduits are in use in Washington for electric lighting, and there are other instances of the successful operation of this description of conduit.

In New York there are several systems in use underground, each more or less satisfactory to those employing it. A prominent example is the Brooks system used by the Metropolitan Telephone and Telegraph Company. It consists of an iron tube in which cotton-wrapped wires are drawn, and the tube itself is the conduit for the electric light, and there are other instances of the successful operation of this description of conduit.

The Western Union Telegraph Company has many wires already down in this city, laid in 2-inch iron pipes, into which they draw cables manufactured from oakite or kerite insulation. These pipes are lead-jointed, are laid in Broadway, and have manholes occasionally for taking out the wires.

To sum up as to the form of subway and the manner in which the wires are to be placed in it.

We are convinced that from the standpoint of an electrician, simply it may be said, that almost any plan of system can be made to work; from a single long-covered wire laid directly in the earth, to a great tunnel upon whose walls the insulated conductors can be hung. Within certain broad limits, any system is electrically practicable; retardation and induction can be overcome. It is only when we face in this city the mechanical engineering and chemical questions of interference with water-pipes, gas-pipes and sewer-pipes, of obstructions from vaults, or danger from steam pipes, of the action of sewer and illuminating gas, that the necessity for careful discrimination presents itself.

The question of distribution of electrical currents from the main subways constructed in New York, and which, as described, has been largely left by the authorities in the city of New York to the preference of the electrical companies.

Two systems of distribution are at present actually in use in New York by the telephone company. These are known as the house-top system of distribution, an example of which may be seen at Sixth Avenue and Fifty-first Street, and the man-hole system of distribution, which may be seen at Broadway and Exchange Place.

In addition to these systems, there are five modes of distribution which can be readily applied to the subways as constructed in New York, and which will be allowed in cases where they are severely most expedient, the lamp post system, the house-vault system, now in use in Chicago, the back-yard system, and the man-hole system. In the heart of Chicago, the distribution question is peculiarly easy of solution, because the

sidewalks were left hollow by raising the street levels after the great fire, and the wires are run through these spaces to the houses.

Having decided the question of the kind of conduit to use, the commission proceeded to have subways constructed according to these plans. It was decided best, as a matter of expediency and to prevent accident, that electric light subways should be distinct from those intended for telephone and telegraph services, and it has therefore been the practice of the authorities in New York to build subways for one class of conductors upon one side of the street, and reserve the other side for those of other service.

The telephone people were the first to realize that underground wires were sure to be ultimately a success. Their business had grown enormously, they had almost reached the capacity of their pole lines, and it was not easy to get the use of additional streets, because the streets are crowded with wires—both their own and those of other companies. It was found that the growth of the telephone business was practically put an end to by the fact that no more room could be found in which to string wires. House-owners were charging a rental of one dollar per wire per year, which, in some cases, amounted to very large sums already in operation some four thousand of refusing subscribers. They came forward, and were the first to declare for underground wires.

After some resistance, the telegraph and electric light companies have come to the conclusion that it is as well for them to comply with the demands of the public and place the bulk of their conductors underground. And, as a matter of fact, the City of New York, today, there is but one single company out of the large number doing business here which refuses absolutely to comply with the provisions of the subway acts, and nine-tenths of the opposition to the subway has been caused by this company.

At the present time the total construction of single duct in the City of New York amounts to four hundred and twenty miles. In these subways there are already in operation some four thousand miles of telephone and telegraph wires, and some hundreds of miles of incandescent electric light conductors. Cables for lighting are to be drawn in on Broadway, from Fourteenth to Thirty-fourth streets by the Brush Electric Illuminating company within the present week. A letter from the electrician of the Metropolitan Telephone and Telegraph company, bearing date August 25th, as estimating the exact length of cables of various kinds now underground, is as follows:

"New York, Aug. 25th, 1888.  
S. S. Wheeler, Esq., Electrician of the Board of Electrical Control:  
Dear Sir—I have hastily collected the following information relating to the underground mileage of wire:

The number of miles of single wire conductors in New York City of the various kinds is as follows:  
Brooks system, laid May 25th, 1885, 200 miles; Patterson cable, laid March 18th, 1885, 226 miles; Edison system, laid June 20th, 1885, 194 miles; Patterson cable, laid in 1886-7, 805 miles; Patterson cable twisted in pairs, number of miles counting both wires, in 1888, 2,272 miles.

We have in course of construction some 12,000 miles of conductors which will be laid in September and October. Total number of miles already laid in New York, 3,697. The number of miles of underground wire in Brooklyn is 2,100; in Paris, 4,100; in Chicago, 220. As per report of telephone convention held September 25, 1887, the number

of miles of underground wire in Boston is 400; in Pittsburgh, about 1,000.

I find that there is a very small amount of underground wires used in London for telephone purposes, there being some short lengths used entering exchanges, which is not worth while considering.

Respectfully,

(Signed) J. A. SEELY, Electrician.

If it will be seen from this that there are already underground in the city of New York, many electrical conductors than in any other city in the world, while the capacity of the construction already finished in this city may be estimated fairly at something over 30,000 miles of conductors.

There are underground lines completed from the Battery to the Park on the two principal thoroughfares of this city, Broadway and Sixth Avenue, and a gradual conversion of overhead systems to underground ones in the busy part of the city may be confidently expected.

### PEPPERMINT DROPS.

A headache may often be considered a champagne issue.

This banana trust will be nothing more nor less than a skin game.

When a metre is out of order it is probably troubled with the gas-trick fever.

We are credibly informed that all the best base ball coaches have waggon' tongues.

They get out a new city map at Topoka every time a property owner there builds a new fence.

The world is not so bad as it is badly painted. One straw vote flound has been killed on a railroad.

"The waltz has entered upon its 101st season. It would seem as if the waltz ought to be old enough to be less giddy."

Many a stalwart man, with muscles like bedcord, has broken his back trying to lift the mortgage of a little \$500 house.

"There are more weights than one of making money," remarked the coal-dealer softly, as he shoved the pea along the scale beam.

Mark Twain says that he has no difficulty in sustaining